Part I. Single Choice Questions (12×2 points = 24 points)

1. D 2. A 3. B 4. C 5. D

6. A 7. C 8. A 9. B 10.C

11.C 12.D

Part II. Multiple Choices Questions (4×2 points = 8 points)

1. B D E 2. A C D E 3. B C E 4. B D E

Part III. True or False (11×1 point = 11 points)

1. F 2. F 3. T 4. T 5. T

6. F 7. T 8. F 9. F 10.T 11. T

Part IV: Completion by Matching (10×1.5 point = 15 points)

1. C 2. H 3. N 4. I 5. K

6. L 7. B 8. J 9. E 10.D

Part V. Short Answer Questions (12 points)

1. (4 points)

   It prints:

   ```
   [Physics, Logic, Algbra, Programming]
   ```

   (Any correct item in proper order will get 1 point. Any wrong item will get -1 point.)

2. (2 points)

   It prints:

   ```
   :-) Hi 2020
   ```

   ("`:-)`*" will get 1 point. "*`Hi 2020`*" will get 1 point.)*

3. (2 points)

   It prints:

   ```
   South
   ```

4. (4 points)

   It prints:

   ```
   [1, 3]
   [2, 1, 8]
   [10]
   []
   ```

   (Each correct line get 1 point.)

Part VI: Programming (30 points)

1. The Reference Code Segment 1 :

```
double dx = p2.x - p1.x;
double dy = p2.y - p1.y;
double dz = p2.z - p1.z;
return Math.sqrt( dx * dx + dy * dy + dz * dz );
```

2. The Reference Code Segment 2.1 :

```
Scanner in = new Scanner( System.in );
System.out.print( "Enter the number to be checked: " );
int n = in.nextInt();
```

The Reference Code Segment 2.2 :

```
int factorLimit = (int)Math.sqrt(n+1);
int sum = 1;
for (int i = 2; i <= factorLimit; i++)
   if (n%i == 0) sum += i;  +n/i
return sum == n;
```

3. The Reference Code Segment 3 :

```
final int M = a.length;
final int N = b.length;   // a[0].length
final int P = b[0].length;
double[][] c = new double[M][P];
for (int i = 0; i < M; i++) {
   for (int j = 0; j < P; j++) {
      double t = 0.0;
      for (int k = 0; k < N; k++)
         t += a[i][k] * b[k][j];
      c[i][j] = t;
   }
}
return c;
```